REMARKS

The Office Action dated June 9, 2009 and made final has been carefully reviewed and the foregoing Amendment has been made in consequence thereof. The present Amendment is submitted with a Request for Continued Examination.

Claims 1-2, 4-10, 12-22, 24-36 and 38-46 are now pending in this application. Claims 1-36 and 38-45 stand rejected. Claims 3, 11, 23, and 37 have been canceled. Claim 46 is newly added. No additional fee is due for newly added Claim 46. Applicants respectfully submit that this Amendment adds no new matter.

Applicants do not believe any fees are due in connection with this amendment; however, the Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 012384 in the name of ARMSTRONG TEASDALE LLP.

Applicants appreciate the courtesies shown to Applicants' representative, Andrew Kefalonitis Jr., by Examiner Gold in the August 10, 2009 telephonic interview. During the interview, Applicants' representative discussed aspects of the present invention with Examiner Gold. In particular, Examiner Gold's 35 U.S.C. § 112 rejection of Claims 1, 13, 28, and 36 for including a negative limitation was discussed. More specifically, Examiner Gold was supportive of amending the claims to positively recite the direct connection between the web and file transfer system and the ACM CPU. Also, positive results achieved by embedding a web and file transfer system within an ACM were discussed. For example, a reduction in hardware costs and a reduction in response time to access ACM data are facilitated by eliminating a back plane driver (see backplane driver 56, Figure 3, Papadopoulos) between the web server and the ACM CPU. By eliminating the back plane driver, the functions performed by the back plane driver that facilitate communications between a web server and an ACM must be accomplished in a different manner. For example, the ability of the web-enabled ACM of the instant application to create and edit user-defined web page files, and to control the ACM using ACM tag functions within the user-defined web page files, was also discussed. No agreement regarding patentability was

reached, however, Applicants have amended the claims in a manner consistent with what was discussed in the interview.

The rejection of Claims 1, 13, 28, and 36 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement is respectfully traversed. Applicants have amended Claims 1, 13, 28, and 36 to recite the *direct electrical connection* between the web and file transfer system and the ACM CPU. Applicants respectfully traverse the assertion on Page 2 of the instant Office Action that the sole purpose of the limitation "without using a backplane" is to get around the cited art. Paragraph 25 of the instant Application states, "[s]ubsystem 14 is shown in Fig. 1 to be embedded within eWeb ACM 12. In an alternative embodiment, subsystem 14 is contained in a separate module connected to backplane 24." Applicants contemplated the use of a backplane, as described in this alternative embodiment, but have decided to expressly claim the direct connection between the web and file transfer system and the ACM CPU. The novelty does not exist in what connects the web and file transfer system and the ACM CPU, but rather, the novelty exists in the direct connection between the web and file transfer system and the ACM CPU without the use of a backplane. Furthermore, the ACM described in the instant application includes a backplane interface (see backplane interface 22, Figure 1). However, the backplane interface of the instant application is not used to couple an ACM to a web server, as is described in the cited art, but rather, the backplane interface facilitates coupling the ACM to input devices. For at least the reasons set forth above, Applicants respectfully request that the Section 112 rejections of Claims 1, 13, 28, and 36 be withdrawn.

The rejection of Claims 1-12, 28-32, and 45 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,668,279 to Curtis (hereinafter referred to as "Curtis") in view of U.S. Patent 6,061,603 to Papadopoulos et al. (hereinafter referred to as "Papadopoulos") is respectfully traversed.

Curtis describes a web server (202) that includes an in-kernel cache (204) that is managed by a data transport module (206). The web server (202) receives HTTP requests from multiple clients (100) and (102). The data transport module (206) places an object containing the HTTP request in an upcall thread queue (214). An upcall thread (216) then

obtains the HTTP request from the upcall thread queue (214) and invokes a method implemented by the HTTP daemon (210). The HTTP daemon (210) returns an HTTP response and/or directives to control information that is stored in the in-kernel cache (204) or control a flow of information that is transmitted to the clients (100) or (102). This information is sent to the data transport module (206) via a downcall door (220). Notably, Curtis does not describe nor suggest a web and file transfer system directly electrically connected, without using a backplane, to an ACM CPU, wherein the web and file transfer system is embedded within an ACM. Furthermore, and as acknowledged by the Examiner on Page 4 of the instant Office Action, Curtis does not describe nor suggest using form data from an HTTP request to transfer ACM data to an ACM CPU to control operation of the ACM, wherein the ACM is one of a programmable logic controller, a computer numeric control, and a motion control product. Moreover, Curtis does not describe nor suggest a web and file transfer system that executes an ACM tag function using the form data from an HTTP request to transmit ACM data to the ACM CPU to control operation of the ACM.

Papadopoulos describes a process control system (6) that allows a user (2) to access a programmable logic controller (PLC) (32). A web server (30) provides a direct connection for the PLC (32) to the Internet (14) by plugging the web server (30) into a backplane (34). The web server (30) and the PLC (32) are separate components of the process control system (6). Additionally, Papadopoulos states that "[a]ll signals between the PLC 32 and the web server 30 are through the back plane 34...." Notably, Papadopoulos does not describe nor suggest a web server directly electrically connected, without using a backplane, to an ACM CPU, wherein the web server is embedded within the ACM. Rather, Papadopoulos describes a web server (30) coupled to a specific type of ACM (i.e., PLC 32) via back plane 34. Furthermore, Papadopoulos does not describe nor suggest a web server that executes an ACM tag function using form data from an HTTP request to transmit ACM data to an ACM CPU to control operation of the ACM. Rather, Papadopoulos, at column 6, lines 38-45, describes a request for accessing the PLC's (32) registers that is processed by the back plane driver (56), wherein the back plane driver (56) determines the memory location in the memory (38) of the registers of the PLC (32). The back plane driver (56) processes the read/write register

requests by sending commands to the PLC (32) to read or write the locations containing the registers.

Claim 1 recites a web-enabled automation control module (ACM) that includes "an ACM central processing unit (CPU)", "an ACM CPU system memory electrically connected to said ACM CPU", and "a web and file transfer system directly electrically connected, without using a backplane, to said ACM CPU, said web and file transfer system embedded within said ACM, said web and file transfer system comprising a web server, a file transfer server, and a database, said web and file transfer system configured to: receive from a network a plurality of user-defined web page files, at least one of the plurality of user-defined web page files comprising at least one ACM tag function that facilitates an exchange of ACM data between said web server and said ACM CPU system memory; store the plurality of user-defined web page files in said database; receive, from the network, a hypertext transfer protocol (HTTP) request to send a first user-defined web page file of the plurality of user-defined web page files to the network; process the HTTP request; access the first user-defined web page file referenced in the HTTP request; parse the first user-defined web page file for the at least one ACM tag function; and execute the at least one ACM tag function using form data from the HTTP request to transmit ACM data to said ACM CPU to control operation of said ACM", "wherein said ACM is one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product."

No combination of Curtis and Papadopoulos describes or suggests a web-enabled ACM as is recited in Claim 1. More specifically, no combination of Curtis and Papadopoulos describes or suggests a web and file transfer system embedded within an ACM and directly electrically connected, without using a backplane, to an ACM CPU. Rather, and in contrast to the recitations of Claim 1, Curtis describes a conventional web server, and Papadopoulos describes a web server that provides a connection between a PLC and the Internet, wherein all signals between the PLC and the web server are through a back plane. Furthermore, the web server described in Curtis is not embedded within an ACM, or associated with an ACM, and therefore, Curtis does not describe nor suggest how the web server would be connected to an ACM CPU.

Moreover, no combination of Curtis and Papadopoulos describes or suggests a web and file transfer system configured to receive from a network a plurality of user-defined web page files, wherein at least one of the plurality of user-defined web page files comprises at least one ACM tag function that facilitates an exchange of ACM data between a web server and an ACM CPU system memory. Rather, and in contrast to the recitations of Claim 1, Curtis describes a conventional web server (i.e., no mention of an ACM and therefore no suggestion or description of how to facilitate an exchange of ACM data between a web server and an ACM CPU system memory), and Papadopoulos describes a back plane driver that processes a request for access to registers of a PLC. Since neither Curtis nor Papadopoulos, considered alone or in combination, describe user-defined web page files that include ACM tag functions, Applicants also respectfully submit that in contrast to the recitations of Claim 1, Curtis and Papadopoulos do not describe nor suggest a web and file transfer system configured to parse a user-defined web page file for an ACM tag function and executing the ACM tag function using form data from the HTTP request to transmit ACM data to an ACM CPU to control operation of the ACM. Accordingly, Claim 1 is submitted to be patentable over Curtis in view of Papadopoulos.

Claims 3 and 11 have been canceled. Claims 2, 4-10, 12, and 45 depend from independent Claim 1. When the recitations of Claims 2, 4-10, 12, and 45 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2, 4-10, 12, and 45 likewise are patentable over Curtis in view of Papadopoulos.

Claim 28 recites a method for management and control of an automation control module (ACM) including an ACM central processing unit (CPU), wherein the ACM is one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product. The method includes "embedding a web and file transfer system within the ACM including electrically connecting the web and file transfer system directly to the ACM CPU without the use of a backplane, the web and file transfer system includes a web server, a file transfer server, and a database configured to store a user-defined web page file", "electrically connecting the web and file transfer system to a network", "processing a hypertext transfer protocol (HTTP) request message from the network using the web and file

transfer system, the HTTP request message comprising a request to send the user-defined web page file to the network", and "using form data from the HTTP request message to transfer ACM data to the ACM CPU to control operation of the ACM."

No combination of Curtis and Papadopoulos describes or suggests a method for management and control of an ACM as is recited in Claim 28. More specifically, no combination of Curtis and Papadopoulos describes or suggests a method that includes embedding a web and file transfer system within an ACM and electrically connecting the web and file transfer system directly to an ACM CPU. Rather, and in contrast to the recitations of Claim 28, Curtis describes a conventional web server, and Papadopoulos describes a web server that provides a connection between a PLC and the Internet, wherein all signals between the PLC and the web server are through a backplane. Furthermore, Curtis does not describe an ACM or an ACM CPU, and therefore does not describe an ACM that includes an embedded web and file transfer system or how the web and file transfer system would be connected to an ACM CPU.

Moreover, no combination of Curtis and Papadopoulos describes or suggests a method that includes processing a hypertext transfer protocol (HTTP) request message from a network using a web and file transfer system, the HTTP request message including a request to send a user-defined web page file to the network, and using form data from the HTTP request message to transfer ACM data to the ACM CPU to control operation of the ACM. Rather, and in contrast to the recitations of Claim 28, Curtis describes a conventional web server (i.e., no mention of an ACM and therefore no suggestion or description of how to facilitate an exchange of ACM data between a web server and an ACM CPU system memory), and Papadopoulos describes a back plane driver that processes a request for access to registers of a PLC. Accordingly, Claim 28 is submitted to be patentable over Curtis in view of Papadopoulos.

Claims 29-32 depend from independent Claim 28. When the recitations of Claims 29-32 are considered in combination with the recitations of Claim 28, Applicants submit that dependent Claims 29-32 likewise are patentable over Curtis in view of Papadopoulos.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1-12, 28-32, and 45 be withdrawn.

The rejection of Claims 13-27 and 33-44 under 35 U.S.C. § 103(a) as being unpatentable over Curtis in view of Pettersen (U.S. Patent No. 6,826,594), and further in view of Papadopoulos is respectfully traversed.

Curtis and Papadopoulos are described above. Pettersen describes a method for inserting dynamic content into a web page (793). A web page owner defines one or more zones of web page (793) as remotely managed, and then connects the web page (793) to a content serving web site (780) in order to manage the zones by identifying dynamic content to be inserted in the zones. By way of an affiliate browser (792), a user at an affiliated web site (790) accesses a zone content database (785) to alter a file (787) associated with a tag ID (786) owned by the affiliate. The affiliated web site (790) and the content serving web site (780) each have a web server (791) and (781). In response to a request from a user system browser (762), the content serving web site (780) looks up the file (787) associated with the dynamic content from the dynamic content database (785), using the tag ID (786) as a key, and sends the file (787) to a user system (760). Notably, Pettersen does not remedy the deficiencies of Curtis and Papadopoulos in describing or suggesting executing an ACM tag function using form data from an HTTP request to transmit ACM data to an ACM CPU to control operation of the ACM.

Claim 13 recites an automation control module (ACM) system that includes "a network", "a web-enabled computer electrically connected to said network", and "an ACM electrically connected to said web-enabled computer via said network, wherein said ACM is at least one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product, said ACM comprising an ACM central processing unit (CPU) directly electrically connected to a web and file transfer subsystem without using a backplane, said ACM CPU and said web and file transfer subsystem embedded within said ACM, said web and file transfer subsystem comprising a web server, a file transfer server, and a database, said web and file transfer subsystem configured to: receive from said web-enabled computer, via said network, a plurality of user-defined web page files, at least one of

said plurality of user-defined web page files comprising at least one ACM tag function that facilitates an exchange of ACM data between said web and file transfer subsystem and said ACM CPU; store the plurality of user-defined web page files in said database; receive from said web-enabled computer, via said network, a hypertext transfer protocol (HTTP) request to send a first user-defined web page file of the plurality of user-defined web page files to said web-enabled computer; process the HTTP request; access the first user-defined web page file referenced in the HTTP request; parse the first user-defined web page file for the at least one ACM tag function; and execute the at least one ACM tag function using form data from the HTTP request to transmit ACM data to said ACM CPU to control operation of said ACM."

Curtis, Pettersen, and Papadopoulos, considered alone or in combination, do not describe nor suggest an ACM system as is recited in Claim 13. More specifically, no combination of Curtis, Pettersen, and Papadopoulos describes or suggests an ACM system that includes an ACM that includes an ACM central processing unit (CPU) directly electrically connected to a web and file transfer subsystem without using a backplane, wherein the ACM CPU and the web and file transfer subsystem are embedded within the ACM and the web and file transfer subsystem is configured to execute an ACM tag function using form data from an HTTP request to transmit ACM data to the ACM CPU to control operation of the ACM. Rather, and in contrast to the recitations of Claim 13, Curtis describes a conventional web server, Pettersen describes a content serving web site that looks up a file associated with dynamic content in a dynamic content database, and sends the file to a user system in response to a request from a user, and Papadopoulos describes a web server that provides a connection between a PLC and the Internet, wherein all signals between the PLC and the web server are through a back plane. Furthermore, the web server described in Curtis is not embedded within an ACM, or associated with an ACM, and therefore Curtis does not describe nor suggest how the web server would be connected to an ACM CPU. Furthermore, although Pettersen describes accessing and sending dynamic content to a user, upon a request from the user, Pettersen does not describe nor suggest transmitting or receiving data used to control operation of an ACM. Accordingly, Claim 13 is submitted to be patentable over Curtis in view of Pettersen, and further in view of Papadopoulos.

Claim 23 has been canceled. Claims 14-22 and 24-27 depend from independent Claim 13. When the recitations of Claims 14-22 and 24-27 are considered in combination with the recitations of Claim 13, Applicants submit that dependent Claims 14-27 likewise are patentable over Curtis in view of Pettersen, and further in view of Papadopoulos.

Claim 28 is recited above. Claims 33-35 depend from independent Claim 28.

Curtis, Pettersen, and Papadopoulos, considered alone or in combination, do not describe nor suggest a method for management and control of an ACM as recited in Claim 28. More specifically, no combination of Curtis, Pettersen, and Papadopoulos describes or suggests embedding a web and file transfer system within an ACM, including electrically connecting the web and file transfer system directly to the ACM CPU without the use of a backplane, processing an HTTP request from a network using the web and file transfer system, and using form data from the HTTP request to transfer ACM data to the ACM CPU to control operation of the ACM. Rather, and in contrast to the recitations of Claim 28, Curtis describes a conventional web server, Pettersen describes a content serving web site that looks up a file associated with dynamic content in a dynamic content database, and sends the file to a user system in response to a request from a user, and Papadopoulos describes a web server that provides a connection between a PLC and the Internet, wherein all signals between the PLC and the web server are through a back plane. Furthermore, the web server described in Curtis is not embedded within an ACM, or associated with an ACM, and therefore Curtis does not describe nor suggest how the web server would be connected to an ACM CPU. Furthermore, although Pettersen describes accessing and sending dynamic content to a user, upon a request from the user, Pettersen does not describe nor suggest transmitting or receiving data used to control operation of an ACM. Accordingly, Claim 28 is submitted to be patentable over Curtis in view of Pettersen, and further in view of Papadopoulos.

Claims 33-35 depend from independent Claim 28. When the recitations of Claims 33-35 are considered in combination with the recitations of Claim 28, Applicants submit that dependent Claims 33-35 likewise are patentable over Curtis in view of Pettersen, and further in view of Papadopoulos.

Claim 36 recites a method for management and control of an automation control module (ACM) using an ACM system. The ACM system includes a network, a web-enabled computer electrically connected to the network, and the ACM electrically connected to the web-enabled computer via the network, the ACM comprising an ACM central processing unit (CPU). The method includes, "embedding a web and file transfer subsystem within the ACM including directly electrically connecting the web and file transfer subsystem to the ACM CPU without the use of a backplane, the web and file transfer subsystem includes a web server, a file transfer server, and a database", "storing at least one user-defined web page file in the database, the at least one user-defined web page file comprising at least one ACM tag function that facilitates an exchange of ACM data between the web and file transfer subsystem and the ACM CPU", "processing a hypertext transfer protocol (HTTP) request from the network", and "executing the at least one ACM tag function using form data from the HTTP request to transfer ACM data to the ACM CPU to control operation of the ACM."

Curtis, Pettersen, and Papadopoulos, considered alone or in combination, do not describe nor suggest a method for management and control of an ACM as is recited in Claim 36. More specifically, no combination of Curtis, Pettersen, and Papadopoulos describes or suggests embedding a web and file transfer system within an ACM, including directly electrically connecting the web and file transfer subsystem to the ACM CPU without the use of a backplane, processing an HTTP request from a network, and executing an ACM tag function using form data from the HTTP request to transfer ACM data to the ACM CPU to control operation of the ACM. Rather, and in contrast to the recitations of Claim 36, Curtis describes a conventional web server, Pettersen describes a content serving web site that looks up a file associated with dynamic content in a dynamic content database, and sends the file to a user system in response to a request from a user, and Papadopoulos describes a web server that provides a connection between a PLC and the Internet, wherein all signals between the PLC and the web server are through a back plane. Furthermore, the web server described in Curtis is not embedded within an ACM, or associated with an ACM, and therefore Curtis does not describe nor suggest how the web server would be connected to an ACM CPU. Furthermore, although Pettersen describes accessing and sending dynamic content to a user, upon a request from the user, Pettersen does not describe nor suggest transmitting or

receiving data used to control operation of an ACM. Accordingly, Claim 36 is submitted to be patentable over Curtis in view of Pettersen, and further in view of Papadopoulos.

Claim 37 has been canceled. Claims 38-44 depend from independent Claim 36. When the recitations of Claims 38-44 are considered in combination with the recitations of Claim 36, Applicants submit that dependent Claims 38-44 likewise are patentable over Curtis in view of Pettersen, and further in view of Papadopoulos.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 13-27 and 33-44 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

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